

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 10 (cancelled).

Claim 11 (currently amended): An emissive electrode insert formed from an alloy comprising at least about 80% hafnium by weight, and between about 0.1% to about 8% zirconium by weight.

Claim 12 (cancelled): ~~The insert of claim 11, wherein said alloy comprises at least about 80% hafnium by weight.~~

Claim 13 (previously presented): The insert of claim 12, wherein said alloy comprises at least about 90% hafnium by weight.

Claim 14 (cancelled): ~~The insert of claim 11, wherein said alloy comprises between about 0.1% and about 8% zirconium by weight.~~

Claim 15 (previously presented): The insert of claim 14, wherein said alloy comprises between about 0.5% and about 5% zirconium by weight.

Claim 16 (previously presented): The insert of claim 11, wherein said alloy comprises between about 96% and about 99% hafnium by weight and between about 0.5% and about 3.5% zirconium by weight.

Claim 17 (previously presented): The insert of claim 11, wherein said alloy comprises between about 98.08% and about 98.20% hafnium by weight and between about 1.70% and about 1.82% zirconium by weight.

Claim 18 (previously presented): The insert of claim 11, wherein said insert is of cylindrical shape.

Claim 19 (previously presented): The insert of claim 11, wherein said insert has a length of between about 3 mm and about 8 mm, and a diameter of between about 1 mm and about 4 mm.

Claim 20 (currently amended): A plasma torch electrode comprising:
- an electrode body comprising a cavity; and
- an emissive electrode insert comprising at least about 80% hafnium by weight, and between about 0.1% and about 8% zirconium by weight,
wherein said insert is fitted into the cavity of said electrode body.

Claim 21 (previously presented): The plasma torch electrode of claim 20, wherein said insert comprises copper.

Claim 22 (previously presented): The plasma torch electrode of claim 21, wherein said insert comprises a copper alloy.

Claim 23 (previously presented): A plasma torch comprising the plasma torch electrode of claim 20.

Claim 24 (previously presented): The plasma torch of claim 23, wherein said insert comprises copper.

Claim 25 (previously presented): The plasma torch of claim 24, wherein said insert comprises a copper alloy.

Claim 26 (previously presented): The plasma torch of claim 23, wherein said plasma torch comprises a plasma cutting torch.

Claim 27 (previously presented): The plasma cutting process for cutting a steel workpiece in which said plasma torch of claim 23 is employed.

Claim 28 (previously presented): A process for cutting a steel workpiece comprising using a plasma cutting torch wherein the electrode comprises an emissive electrode insert which comprises from about 96% up to about 99% hafnium by weight and from about 0.5% up to about 3.5% zirconium by weight.

Claim 29 (previously presented): The process of claim 28 wherein said insert comprises from about 98.08% up to about 98.20% hafnium by weight and from about 1.70% up to about 1.82% zirconium by weight, of cylindrical shape, has a length of from about 3 mm up to about 8 mm, and a diameter of from about 1 mm up to about 4 mm.